

## CLAIMS

1. (Original) An optoelectronic device, comprising:  
an optical substrate coupled to a submount and including an optical device; and  
a signal and a ground conductor coupled to said submount, wherein said signal and ground conductors have a direction of signal propagation associated therewith, and wherein related transitions of said signal and ground conductors between said submount and said optical substrate are separated along said direction by a predetermined distance.

2. (Original) The optoelectronic device as recited in claim 1 wherein said related transitions are transitions of said signal and ground conductors from said submount to said optical substrate.

3. (Original) The optoelectronic device as recited in claim 1 wherein said predetermined distance is between about 10% and about 100% of a radian of phase of a shortest wavelength ( $WL_{min}$ ) of a signal that propagates along said signal and ground conductors.

4. (Original) The optoelectronic device as recited in claim 1 wherein said optical device includes an optical waveguide having a modulation region, and wherein one of said transitions is adjacent said modulation region.

5. (Original) The optoelectronic device as recited in claim 1 wherein said related transitions are first transitions, and further including second related transitions of

said signal and ground conductors between said submount and said optical substrate, wherein said second transitions are separated along said direction.

6. (Original) The optoelectronic device as recited in claim 1 wherein said optical device is a modulator.

7. (Original) The optoelectronic device as recited in claim 1 further including a coplanar waveguide and a load resistor, said coplanar waveguide located on said submount and including a signal trace and a ground trace respectively contacting said signal and ground conductors, said load resistor coupled to said signal conductor at an end opposite from said signal trace, wherein a distance ( $d1 + d2$ ) between said signal trace and said load resistor is less than or equal to the shortest wavelength ( $WL_{min}$ ) that propagates along said signal and ground conductors.

8. (Original) The optoelectronic device as recited in claim 1 wherein said predetermined distance defines a region that is at least a portion of an inductive element.

9. (Original) The optoelectronic device as recited in claim 1 wherein said submount and said optical substrate are separated by a gap ranging between about  $1\text{ }\mu\text{m}$  and about  $30\text{ }\mu\text{m}$ , wherein a material having a dielectric constant less than about 4.0 occupies said gap.

10. (Original) The optoelectronic device as recited in claim 1 wherein said optoelectronic device is included within an optical communications system including a transmitter or a receiver.

11-20. (Canceled)